



1 **SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0053/2**

4 Equipment or Protective System: **AST 3IS**

5 Manufacturer: **Vishay Nobel AB**

6 Address: **Box 423, SE-691 27 Karlskoga, Sweden**

7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0053 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **2054**

Project File No. **06/0061**

This certificate is granted subject to the general terms and conditions of Baseefa (2001) Ltd. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

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Baseefa is a trading name of Baseefa (2001) Ltd
Registered in England No. 4305578 at the above address

R S SINCLAIR

DIRECTOR

On behalf of
Baseefa (2001) Ltd.



13

Schedule

14

Certificate Number Baseefa02ATEX0053/2

15 **Description of the variation to the Equipment or Protective System**

Variation 2.1

To permit minor changes to drawings; the IS assessment is not affected.

16 **Report Number**

None

17 **Special Conditions for Safe Use**

None

18 **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 **Drawings and Documents**

Number	Sheet	Issue	Date	Description
500 532	1	1	060502	CPU Circuit Sheet 1
500 534	1	1	060502	CPU Circuit Sheet 3
500 536	1	1	060502	CPU Circuit Sheet 5
500 539	1	4	060502	Power Circuit Sheet 1
500 541	1	2	060502	Power Circuit Sheet 3
500 542	1	3	060502	Power Circuit Sheet 4



1 SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3** Supplementary EC - Type Examination Certificate Number: **Baseefa02ATEX0053/1**
- 4** Equipment or Protective System: **AST 3IS**
- 5** Manufacturer: **Vishay Nobel AB**
- 6** Address: **Box 423, SE-691 27 Karlskoga, Sweden**
- 7** This supplementary certificate extends EC – Type Examination Certificate No. Baseefa02ATEX0053 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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Schedule

14

Certificate Number Baseefa02ATEX0053/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

To permit addition of English text to drawings; the IS assessment is not affected.

16 Report Number

None

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
110 262	1 to 3	3	2005-08-18	AST 3IS Parts List
300 136	1	3	050815	AST 3IS Assembly
400 394	1	1	050815	Display PCB
400 395	1	1	050815	CPU PCB
400 396	1	1	050815	Power PCB
400 402	1	1	050815	Power PCB Assembly C side
400 404	1	1	050815	CPU PCB Assembly C side
500 465	1	1	050815	Hazardous Area Terminals Ident
500 466	1	1	050815	IS Transformer
500 467	1	1	050815	Non-Hazardous Area Terminals Ident
500 470	1	2	050815	Heatsink
500 539	1	3	050815	Power Circuit Sheet 1
500 542	1	2	050815	Power Circuit Sheet 4
500 547	1	1	050815	Display PCB Assembly
500 550	1	1	050815	Heat sink
500 593	1	1	050815	IS Transformer Assembly
500 991	1	5	050815	Label
600 617	1	1	050815	Serial No. Label



1 **EC - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

3 EC – Type Examination Certificate **Baseefa02ATEX0053**
Number :

4 Equipment or protective system: **AST 3IS**

5 Manufacturer : **Thermo Nobel AB**

6 Address : **Box 423, SE-691 27 Karlskoga, Sweden**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Baseefa (2001) Ltd. Notified body number 1180 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **02(C)0254**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014 : 1997 + Amendments 1 & 2 EN 50020 : 2002

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions of safe use specified in the schedule to this certificate.

11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following :

⊕ II (1) GD [EEx ia] IIC -10°C ≤ Ta ≤ +40°C

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa (2001) Ltd. Customer Reference No. **2054**

Project File No. **02/0254**

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R S SINCLAIR

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On behalf of
Baseefa (2001) Ltd.

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Schedule

15 Description of Equipment or Protective System

The AST 3IS is a transformer isolated analogue signal transmitter designed to provide a galvanically isolated interface to enable the connection of 4 or 6-wire load transducers located in a hazardous area to apparatus located in a non-hazardous area by providing galvanic isolation and limiting the voltage and current into the hazardous area to intrinsically safe levels.

The apparatus comprises a number of electrical components, including transformers, fuses, resistors and zener diodes, mounted on three printed circuit boards and housed within a plastic enclosure.

The segregation of the hazardous area circuits meets the requirements for 375V pk.

Non-hazardous Area Terminals 9 to 25:

$$U_m = 250V$$

The AST3IS is designed to be powered from a dc supply not exceeding 32V (Terminals 17, 18).

Relay contacts on terminals 9 to 14 to be connected to an ac/dc supply not exceeding 30V and 1A.

Hazardous Area Terminals 1 to 8:

$$U_o = 14.4V \quad I_o = 600mA \quad P_o = 1.1W \quad C_i = 40nF$$

The capacitance and either the inductance or the inductance to resistance ratio (L_o/R_o) of the load connected to the output terminals of each channel must not exceed the following values:

GROUP	CAPACITANCE in μF	INDUCTANCE in μH	OR	L/R RATIO in $\mu H/ohm$
IIC	0.5	60		32
IIB	3.0	180		130
IIA	12	480		260

16 Report No.

Baseefa (2001) Ltd. Certification Report 02(C)0254 dated 14th November 2002.

17 Special Conditions for Safe Use

None

18 Essential Health and Safety Requirements

None additional to those covered by the standards listed at item 9

19 Drawings and Documents

Number	Issue	Date	Description
110 262 Sheets 1 to 3	2	07/11/02	AST 3IS Parts List
300 136	1	03/10/02	AST 3IS Assembly



Number	Issue	Date	Description
400 394	0	06/04/99	Display PCB
400 395	0	06/05/99	CPU PCB
400 396	0	05/05/99	Power PCB
400 402	0	08/06/99	Power PCB Assembly C side
400 403	0	08/06/99	Power PCB Assembly S side
400 404	0	08/06/99	CPU PCB Assembly C side
400 405	0	08/06/99	CPU PCB Assembly S side
500 465	0	16/12/98	Hazardous Area Terminals Ident
500 466	0	19/05/99	IS Transformer
500 467	0	17/12/98	Non-Hazardous Area Terminals Ident
500 470	1	03/03/99	Heatsink
500 531	0	18/12/98	Display Circuit
500 532	0	11/12/98	CPU Circuit Sheet 1
500 533	0	18/12/98	CPU Circuit Sheet 2
500 534	0	18/12/98	CPU Circuit Sheet 3
500 535	0	18/12/98	CPU Circuit Sheet 4
500 536	0	18/12/98	CPU Circuit Sheet 5
500 537	0	18/12/98	CPU Circuit Sheet 6
500 538	0	18/12/98	CPU Circuit Sheet 7
500 539	2	14/11/02	Power Circuit Sheet 1
500 540	0	11/12/98	Power Circuit Sheet 2
500 541	0	11/12/98	Power Circuit Sheet 3
500 542	1	11/12/98	Power Circuit Sheet 4
500 547	0	06/04/99	Display PCB Assembly
500 550	0	10/04/99	Heat sink
500 593	0	08/06/99	IS Transformer Assembly
500 991	2	03/10/02	Label
600 617	0	07/08/02	Serial no Label
850 046 Sheets 1 and 2	0	14/11/02	Critical Parts List